Table of Contents

Section 1 – Documentation

Laboratory Information Management System (LIMS): This system houses evidence tracking, chain of custody, case assignment and reporting among other features. Latent print Analysts will upload processing and examination notes in LIMS which will serve as the permanent record. The current LIMS manual can be found on the internal network drive: I:\Quality Assurance Program→Controlled Documents→ANAB Program.

ACE-V Electronic Documentation (ACEVEDo): An automated note-taking document written in Adobe Acroform PDF. The document was created by the Alaska Scientific Crime Detection Laboratory (ASCDL) Latent Print staff to contemporaneously document all case Analysts' activities relating to items of evidence submitted for latent print recovery. ACEVEDo is based on the Latent Print Examination Process Map published by The Expert Working Group on Human Factors in Latent Print Analysis. The ACEVEDo workflow can be used to document either evidence processing only, or the entire process including the analysis, comparison and evaluation processes. ACEVEDo features automated report generation based on step-by-step documentation of observations through a Linear ACE-V methodology. The most current version approved for use is controlled by the Quality Assurance Manager.

Old Case Records: Stored in laboratory room 2225. Access to this room is limited to laboratory personnel. These case records are uniquely identified by a laboratory number. The following procedure is for cold case retrieval and digitization once the case is retrieved:

- Check LIMS for any existing barcodes, if no entry found, create a new barcode.
- Scan all paper documents and upload them into the case file in LIMS. All physical evidence will be digitized/scanned and uploaded into ADAMS.
- Return all evidence to originating agency.

Proficiency Testing: Each Analyst fully trained in Latent print Processing and Latent Print Examination will participate in yearly proficiency testing.

Monitoring Performance: In addition to yearly external proficiency testing in latent print processing and latent print examination, once per accreditation cycle each competent forensic scientist in the discipline will undergo additional performance monitoring activities from the following:

- Direct observation or Internal latent print processing proficiency test (Enhancement)
- Internal latent print examination proficiency test (Individual Characteristic Database)

Direct observations will be documented as a case activity in LIMS. If a forensic scientist successfully completes the Latent Print Examination IAI Certification test in an accreditation cycle, this will be taken in lieu of an additional internal latent print processing and examination proficiency tests.

Reviews: All Technical and Administrative reviews will be documented on the Tech/Admin Review Form (TARF). The checklist will be completed by the assigned reviewer and any changes to be made will be noted on the form. The case Analyst will make the necessary corrections, and then the Reviewer will ensure all corrections have been documented appropriately before completing the case in LIMS. All original and corrected version(s) of the analysts notes are stored in LIMS, with only the final "corrected" bench notes being distributed along with the final report generated in LIMS. Additional documentation can be provided during a discovery request. The most current version of the review form can be found on the internal network drive: I:\Quality Assurance Program\Controlled Documents\ANAB Program\Discipline Procedure Manuals\Friction Ridge

Meetings: Physical section meetings should occur at least once a month.

All references can be found on the internal network drive: I:\Discipline Shares→Latent_Share→References.

Section 2 - Software

Authenticated Digital Asset Management System (ADAMS)

ADAMS is a digital asset software program made by FORAY Technologies. ADAMS serves as the repository for digital images taken during casework for the Physical Discipline (including: Latent Prints, Crime Scene, Firearms and Footwear). Access to ADAMS and the Digital Assets are limited to staff members who work in the Physical Discipline.

ADAMS Web can be accessed here: https://adams.dps.alaska.gov/AdamsWeb/

Overall packaging and contents for all items of evidence received will be photographed, uploaded in the bench notes, and acquired to ADAMS. Overalls should be taken in JPEG (cameras) or TIFF (scanners) file format. The DLSR cameras mounted on the copy stands near the Alternate Light Source (TracER Laser) and RUVIS stations are not meant for overall photography. Care should be taken to maintain the settings for casework imaging.

All casework imaging for examination purposes should be captured in RAW file format (digital photography) or in the TIFF file format (scanning). These images will be acquired to the ADAMS repository as the permanent record and are referred to as Assets. The Assets, once acquired, are not editable and contain an electronic audit-trail. All digital images received as evidence items (CD/DVD, thumb drive, etc...) must be acquired to ADAMS to maintain the audit trail prior to examination.

ADAMS Digital Workplace provides a calibration utility tool which allows images to be sized at a 1:1 ratio.

The minimum resolution in Pixels Per Inch (PPI) for capturing the following types of evidence is listed below:

Type of evidence	Captured (scanned) at a minimum of:
Latent Impression	1000 PPI
Known Cards	500 PPI
Documentation	300 PPI

If there is a pre-existing unique identifier on the scale/tag or image file name, that identifier should be maintained by the Analyst, and reflected in the Asset name displayed in ADAMS. In the case of multiple areas of ridge detail present within a single image, subdividing each latent should use the following phrase in the bench notes: “Latent print XX (subdivided and designated as XX and XX)”.

If known inked exemplars are generated in the laboratory by properly trained Analysts, they will be given a unique identifier and entered into LIMS as an item of evidence. The exemplars will be digitally preserved and stored in ADAMS and the originals will be destroyed once the digital record is complete. The chain of custody will reflect the “Digital Imaging Server” as the storage location in LIMS.

Adobe Photoshop

The Physical Discipline utilizes Adobe Photoshop for digital image enhancement. From ADAMS, an original image can be opened in Photoshop for digital processing. The goal of digital processing with regard to latent print imaging is to improve the contrast and remove unnecessary color or substrate patterns from the image. All Photoshop installations used for digital processing must have the History function enabled within the application. This feature records all enhancements made to the image. ADAMS, when used with Adobe Photoshop provides a secure and traceable means of digital image storage and processing.

See Appendix A for ADAMS and Adobe Photoshop Working Instructions.

Section 3 – Equipment

Keys: Additional sets of keys for the evidence storage lockers within the latent print laboratory are locked in a key box within the latent case file archive room. Access to this room is limited to Latent Print Discipline Analysts, and the Physical Discipline Supervisor. The key box can only be opened by the Physical Discipline supervisor or designee who can then transfer possession of the key to an Analyst. If an evidence locker key is lost, the Physical Discipline Supervisor must be notified immediately.

Records: Equipment records should include the identity of the equipment, location, manufacturer's instructions, performance checks, calibration certificates, adjustments, date of next calibration as applicable, maintenance performed, a maintenance plan, and repair records. These records will be stored electronically. If hard copy records exist, they will be retained by the Physical Discipline Supervisor.

Equipment records and manuals are stored on the internal network drive located on the laboratory SharePoint.

Balances used for chemical preparation in the Latent Print Discipline are checked and calibrated yearly by an approved outside vendor. Normal maintenance includes keeping the balance clean and level.

Equipment:

- Digital Scale
  - Mettler-Toledo
- Cyanoacrylate Fuming Chambers
  - Misonix CA-3000, Misonix CA-6000, Misonix CA-9000
  - Foster & Freeman MVC/5000
  - Ultrasonic Humidifier
- Humidity Chamber
  - Misonix Incubator Model FE-8000
- Laser
  - Coherent TracER Compact
- Digital Cameras
  - Canon EOS-5D Mark II/III/IV, Canon PowerShot
- Reflected Ultraviolet Imaging System (RUVIS)
  - SceneScope Advance SC-VIEWER-AD
  - SC-Digital-RUVIS 16MP
  - Digital camera and camera mount
  - 254nm (Ultraviolet) Lamp, video attachment and large screen display
- Coaxial Light Guide
- Optimizer PCR Workstation

Performance Checks, Maintenance plans, and Manuals are also located on the internal network drive.

Performance checks: Will be done yearly on all equipment (with the exception of digital cameras, the coaxial light guide, and flashlights) and after unscheduled maintenance has been performed. If a piece of equipment is taken out of service, the Physical Discipline Supervisor will be notified and a sign will be placed on the equipment stating it is out of service, the date, and the Analyst's initials. Once the equipment has been repaired but prior to use in casework, the Analyst is responsible for checking the maintenance logs to verify the equipment was fixed and a new performance check was completed.

Section 4 – Processes

Procedures for physical evidence processing are usually divided into two categories: porous and non-porous surfaces. Processing methods used are left to the Analyst's discretion.

Analysts trained in Latent Print Processing can triage casework by selecting evidence that has the best chance of recovering latent prints, or process a portion of the evidence until the individual(s) of interest are identified by consulting with an Analyst trained in latent print examination. If the latent print Analyst identifies the individual(s) of interest on an item, processing and comparison can cease. When sample selection is performed the Analyst will document it in their notes.

In addition, trained Analysts can perform Touch/Contact DNA collection from items of evidence prior to latent print processing.

The following are approved methods for Latent Print Processing. See Appendix A for working instructions.

Processes:

- Cyanoacrylate
- Reflected Ultraviolet Imaging System (RUVIS)
- Rhodamine (R6G)
- 1,2-Indanedione (IND)
- Ninhydrin
- Amido Black
- Hungarian Red
- Powders
- Liquid Powder Suspension (WetWop)
- Small Particle Reagent (SPR)

Chemical reagent preparation for latent print processing is not dependent upon exact measurements. All reagents in the latent print discipline are non-critical reagents and are not critical consumables. There are no instrumental analyses and measurement of uncertainty does not apply to the Latent Print Discipline.

A quality control is performed at the time the new reagent lot is prepared and again with each use during casework. The control results are recorded in the bench notes and not retained. During processing, reagents are decanted into "day use" containers which are emptied at the end of each day.

If any new methods/techniques are to be tested, the Technical Lead will consult with the Physical Section Supervisor. A validation will be performed and if successful, approved by the Technical Lead. Each Analyst will complete a training module prior to use in casework.

All prepared chemicals are documented using the Chemical Inventory Excel Spreadsheet located on the laboratory SharePoint and a copy of the chemical sheet is saved to the Chemical Lots folder on the internal network drive. A binder is kept in the laboratory containing chemical lot information used and laboratory case number and is available for reference during review.

Performance Check and Validation records are located on the laboratory SharePoint.

The Latent Print Physical Section Laboratory will be cleaned at least once a year. The Physical Discipline Supervisor or designee may determine if more is needed. The general laboratory cleaning areas can be found on the laboratory SharePoint.

Section 5 - Analysis, Comparison, Evaluation, and Verification (ACE-V)

This methodology consists of four parts and is a structured and systematic guide for comparing friction ridge detail. A latent print is defined as friction ridge detail from an unknown individual. A known print is defined as friction ridge detail recorded in a controlled manner from a known individual.

An Analyst may consult with a secondary Analyst at any time. This consult will be documented in the bench notes to include at minimum: the Analyst who was consulted, the information discussed, and the outcome. When possible, the consulted Analyst should not be the assigned Reviewer for that case.

The basis upon which opinions and interpretations are made is documented in the Identification and Verification composites stored in ADAMS Web and in the Analysts bench notes.

Analysis:

Before a latent print may be used for comparison, the suitability of the ridge detail must be determined. This is done by analyzing the quality and quantity of the three different levels of detail:

- Level 1 Detail (ridge flow)
  - General ridge flow, pattern configuration, core and delta location, distinction of finger versus palm, and other information enabling orientation.
- Level 2 Detail (characteristics within the individual ridge path)
  - Ridge endings, bifurcations, dots, or combinations thereof.
- Level 3 Detail (ridge shape)
  - Ridge width and shape, pores, edge contour, incipient ridges, breaks, creases, scars, etc.

If the Analyst determines that a latent print does not contain sufficient characteristics, it is determined to be not suitable for comparison and identification purposes, and analysis is complete.

If the Analyst determines that a latent print contains sufficient characteristics, the latent print is determined to be suitable for comparison and identification purposes and moves on to the next step; Comparison.

Comparison:

The first step in the comparison process is to determine if there are individual(s) to compare. All associated individual(s) in a case will be documented in the bench notes and in LIMS. A comparison will be performed if any known prints are available.

Comparisons are made between the latent print and the available known prints to determine if the ridge detail present is in agreement. Comparisons can also be performed between two latent prints or two known prints to determine if the prints came from the same source, i.e. individual.

If the available known prints for an individual are of low quality or not completely recorded, additional known prints will be requested from the submitting agency for the affected individual(s).

If known prints are not available for an individual, no comparison is possible at that time, and the Analyst should move to the automated database search process, if the latent print is determined to be a reliable search candidate. If the latent print remains unidentified, known prints will be requested from the submitting agency for further comparisons to be made.

Evaluation:

One of the following conclusions will be reported for all latent print comparisons.

Match or Identification: There are sufficient features in agreement to conclude that the latent print is identified to a known print of an individual. Each identification is documented using a digital composite consisting of the latent print and the known print, created by the case Analyst. Ridge detail observed in agreement is then marked on this composite and saved as the identification composite. Both unmarked and marked composites for each latent identified are stored in the "Work Product" folder on the internal network drive and an additional request is created in LIMS for verification.

- If an identification is proven to be wrong, appropriate corrective actions will be determined and initiated by the Physical Discipline Supervisor.

No Match: There are sufficient features in disagreement to conclude that the latent print was not made by the recorded known areas of friction ridge skin available to the Analyst at the time of the comparison. A No Match conclusion does not refer to the exclusion of the individual. The following wording in the notes and report should be used: Latent print XX did not match the available recorded ridge detail for "Person X". The Analyst will acquire the known fingerprint cards to ADAMS Web.

Inconclusive: No conclusion could be reached regarding the latent print and the available known prints because portions of the known prints are of low quality or not completely recorded. The Analyst will request appropriate known prints for the individual(s) from the submitting agency to complete the comparison and evaluation steps. The following wording should be used in the notes and report; Latent print XX was compared to "Person A" with inconclusive results.

Exclusion: There are sufficient features in disagreement between the latent print and the friction ridge skin from an individual to conclude that the latent print did not originate from that particular individual. In order to reach an Exclusion conclusion, the following requirements must be met:

- An "anchor point" must be present which allows the Analyst to exactly determine the anatomical location of the latent print. An anchor point may include the following:
  - Delta, Core, Anatomical aspect allowing exact determination of origin location (i.e. outline of hand or finger, characteristic ridge flow or pattern), and/or a large field of ridge detail which may not have the above (i.e. hypothenar area of palm).
- Clear/suitable known prints from an individual that record ALL ridge detail including the "anchor point" present in the latent print. Exclusion of an individual can only be reached if all relevant comparable anatomical areas are represented and legible in the known print records. All known prints for an exclusion of an individual must be included in ADAMS with the latent print(s) excluded to an individual. An additional request is created in LIMS for verification. All exclusion conclusions must be verified by a second Analyst.

Verification:

All identified latent prints will be verified by a secondary Analyst using the unmarked digital composite created by the original case Analyst, marking the friction ridge detail observed in agreement on this composite and saving it back as the verification composite. The verifier will confirm the documented finger number, name, APSIN/SID number are correct on the composites during verification. The verifier will acquire all of the composites to ADAMS after the verification has been completed. All verifications will be documented in LIMS and the verifier will specify the designated latent print numbers for all verifications made.

Disagreement: In the event that the verifying Analyst disagrees with the original Analysts conclusions, the disagreement will be noted in one of two ways. (Note: Additional reviews are performed until an agreement is reached and all original and corrected Bench notes version(s) are stored in LIMS.)

1. The Analyst's bench notes will be corrected and the disagreement will be noted in the Analyst's bench notes. The following wording should be used : "Consulted with Latent Print Examiner XX on the comparison and evaluation of latent print XX. A consensus was not reached, was forwarded to the Physical Section Supervisor for evaluation."
2. If agreement cannot be reached between the verifier and original Analyst, the disagreement will be documented in LIMS and then sent to the Physical Discipline Supervisor or Latent Print Technical Lead for resolution.
    - If the Physical Discipline Supervisor (or Latent Print Technical Lead) agrees with the original Analyst, a second verification request will be created and completed in LIMS.
    - If the Physical Discipline Supervisor (or Latent Print Technical Lead) agrees with the initial verifier, a second request will be created and the latent will be re-worked by the original verifier. The original Analysts notes and request will also be completed in LIMS.

Exclusions: The verifying Analyst will perform the Analysis, Comparison, and Evaluation process with the known prints used by the original Analyst to determine if they agree with the original Analysts conclusion.

1. If the verifying Analyst does not agree with the original Analysts conclusion, then the Physical Discipline Supervisor or Latent Print Technical Lead is notified for resolution and another Analyst may be designated to review the latent print in question.

CODIS Cards: Analysts may be requested to verify fingerprints and information (including Name and APSIN number for that individual) present on CODIS cards. If an Analyst receives a CODIS card from either Forensic Biology or DPS Records and Identification unit, the following procedure will be followed:
APSIN will be used to determine if a fingerprint record is on file for the named individual and that the APSIN number present on the card corresponds to that individual.

• If a fingerprint record is on file, the record will be viewed through ARCHIVE or ABIS and proper visual comparison techniques (either employing a fingerprint magnifier or digitally scanning the CODIS card and using computer magnification) will be used to establish a positive or negative verification conclusion.

a. If a positive conclusion is reached, the Analyst will initial and date the CODIS card next to the fingerprint used for verification and by the documented APSIN number confirming it is correct for that individual.
b. If a negative conclusion is reached, the Analyst will strike through the documented APSIN number and the fingerprint(s) will be entered and searched through the automated database search process.
    1. If the search results in an identification, the APSIN, SID, or UCN number will be denoted on the CODIS card along with the initials and date of the Analyst.
    2. If the search is negative, the Analyst will write “No record located” and initial and date by each fingerprint search. The analyst will then return the card.

• If no fingerprint record is on file for the APSIN number provided and a name search of the demographic information in APSIN is also negative, then the fingerprint(s) will be entered and searched through the automated database search process and the results will follow the documentation steps 1 or 2 above.

Digital Submissions of Latent Print Evidence: A Request for Lab Services form (RLS) will be submitted by the officer to: dps.latent.fp@alaska.gov. The evidence ‘Item number’ should be unique to the case, as with any physical evidence submission, and the description should state “Digital Images of fingerprints recovered from XX”. Then the evidential digital images should be submitted to the laboratory via the State of Alaska’s ‘ZendTo’ website located: (https://drop.state.ak.us/drop/).

Upon receipt of the digital submission, the analyst will enter the case, evidence, and latent print request in LIMS. The chain of custody should include the submitting officer’s name, via ‘ZendTo’, to the receiving analyst’s name with Digital Imaging Server as the final location.

Anchorage Police Department cases that only contain digital images of impression evidence and that do not already have a laboratory case number will require a new Request for Lab Service (RLS) be submitted to the laboratory.

The digital images evidence ‘Item number’ should be unique to the case and the description should state “Digital Images of fingerprints recovered from XX”. The analyst will enter the case information, the digital evidence item with a proper chain of custody, and latent print request in LIMS. The chain of custody should reflect the images originating from the Digital Imaging Server - APD, via the analyst’s name, with Digital Imaging Server as the final location.

Section 6 – Database Search Process

All latent prints that are of sufficient quality and have not been identified with known finger or palm prints can be entered into the automated search process. The latents are searched at the discretion of the examiner.

At the discretion of the Physical Section Supervisor or APD Forensic Supervisor, an approved deviation for 'ABIS Triage' may be issued depending on the circumstances of a case. A case activity will be added for these instances documenting the approval and reason.

The user guides for the following software are externally controlled and stored on the internal network drive.

- Integra ID Archive - A secure web-based user interface that provides access to a repository of person and event records. It is a record database jointly shared by Alaska, Oregon, Idaho, Utah, Nevada, Montana, Washington, and Wyoming. California and several other individual agencies are interface members of the network.

- Integrated Biometric Workstation (IBW) – An advanced matching system designed to assist in the identification of individuals based on their biometric information.

- Automated Biometric Identification System/Western Identification Network (ABIS/WIN) – A computer database utilizing Integrated Biometric Workstation (IBW).

- Next Generation Identification (NGI) – An FBI electronic repository of biometric and criminal history information providing the ability to search latent fingerprints and palm prints left at crime scenes or recovered from physical evidence against a national biometric repository with improved accuracy and access to event-based criminal, civil, and unsolved latent biometrics.

- Universal Latent Workstation (ULW) – Interactive software for latent print examiners. The software improves the exchange and search of latent friction ridge images involving various ABIS Systems and the FBI's NGI system with a single encoding.

Latent Print Analysts using the WIN/ABIS system can refer to the current WIN/ABIS - NEC Integra-Identified IBW Latent Users Guide as a reference for best practices.

Database performance monitoring will include a ground truth sample to be entered and searched in the database with the expected result obtained by the analyst.

At the end of each month, all prints submitted and searched will be logged on the ABIS WIN Monthly Report controlled document. The document will be uploaded into the following locked location on the internal network drive: I:\Locked→Physical→Latent→Archived.

Appendix A – Working Instructions

Contact DNA

In addition to latent print processing and recovery, Physical Discipline Analysts can perform Touch/ Contact DNA collection from items of evidence submitted to the laboratory.

Limitations:
Contact DNA collection will only be performed by Physical Discipline Analysts on items of evidence that request both Latent Print Processing and Contact DNA on the Request for Laboratory Services form (RLS) or per officer communication (if documented in LIMS).

- Items of evidence that only require DNA Analysis, or involve non-contact DNA collection (i.e. stains, blood etc.) will be worked by the Forensic Biology section.

Safety Consideration:
When dealing with biological samples, suitable protective clothing, mask, and gloves should always be worn. Ultra Violet (UV) light, even when reflected or diffuse, can result in serious, and sometimes irreversible, eye and skin injuries. Do not operate the Optimizer PCR Workstation (UV-Workstation) unless the protective shield is in place. Avoid contact with skin and eyes when using cleaning products.

- Avoid sample contamination by replacing gloves and bench paper before handling each new item of evidence.

Procedure:

1. Wipe down the UV-Workstation with a 10% bleach solution (or equivalent), and let dry.
2. Place a clean piece of paper inside the workstation.
3. Examine the item to determine the best areas for latent print recovery and contact DNA collection.
4. Place one to two drops of sterile water onto the tip of the swab. Record the sterile water Lot Number and Expiration date in the bench notes.
5. Swab the area(s) of interest (those likely to have the most contact with bare skin), and let dry.
6. This swab is then packaged and designated as (XX-S1, from XX) in order of collection.
7. If additional items of evidence from the same case are to be swabbed for contact DNA, repeat steps 2 through 6 above.
8. Once all swabbing is complete, remove all remaining paper from the UV-Workstation and wipe down with a 10% bleach solution (or equivalent).
9. Activate the UV setting and set the timer on the side of the Workstation for a minimum of approximately 30 minutes.

LIMS Entry:
Each swab created above will be packaged and retained separately.

1. In LIMS, select the item swabbed and right click to itemize. Un-containerize and add the item description (refer to step 6 above). Select SAVE. Print a barcode for the swab and attach it to the outer swab package. This new item barcode will be scanned to document all transfers for that item. Refer to the current LIMS manual for this procedure.
   - All swabs will be returned to the designated location in the evidence room.
2. Relate evidence to a Forensic Biology request in LIMS once the swabs are created.

When an item has been swabbed for contact DNA, the bench notes wording will be “Item XX was swabbed for possible contact DNA, designated and retained as XX-S1, from XX.” Refer to step 6 above.

In the event the UV-Workstation is out of service, the Bio-Hood may be used to perform contact DNA collection. The same procedure (steps 1-8) above should be followed when using the Bio-Hood. When an item has been swabbed for contact DNA using the Bio-Hood, the bench notes wording will be “Item XX was swabbed for possible contact DNA in the Latent print Bio-Hood, designated and retained as XX-S1, from XX.”

Cyanoacrylate (Superglue)

Superglue fuming is used for the development or enhancement of latent print evidence on non-porous and semi-porous items. Superglue is placed onto a hotplate in an airtight chamber containing evidence. Humidity is added to the chamber until 80% relative humidity is reached. As the superglue heats, the fumes from the glue circulate throughout the chamber, adhering to the latent print residue on the evidence. Superglue is typically used after a visual examination and before application of other processes. Superglue can interfere with DNA analysis.

- Superglue is purchased and not prepared in the Laboratory.

Safety Consideration:
Suitable protective clothing and gloves should always be worn. Avoid contact with skin and eyes. Use an exhaust system to remove fumes from the area if needed. Heating superglue may generate cyanide fumes.

Procedure:

1. Label and digitally preserve any ridge detail of potential value prior to processing.
2. Place evidence and control into chamber so all surface areas are exposed.
3. Place an aluminum dish containing approximately 20-30 drops (if using Misonix CA-3000) or 60-80 drops (if using Misonix-9000) of superglue onto the hot plate.
4. Verify menu settings of chamber (example: Fuming Time).
5. Seal chamber and start cycle.
6. Once cycle is complete, purge the chamber.
7. Observe the control to determine if sufficient development has occurred. Note: Additional fume cycle may be needed.
8. Remove the control and evidence items.
9. Use intense light to better visualize any developed areas of ridge detail.
10. Label and digitally preserve ridge detail of potential value.

The recommended fuming time for the Misonix CA-3000 is 10-15 minutes. The recommended fuming time for the Misonix CA-9000 is 20-30 minutes. It is dependent upon the Analyst to determine if sufficient development has occurred. Depending on the type of evidence, additional processing techniques for enhancement of latent prints may be used (ex: RUVIS, R6G, Powder).

Approximately 0.05 grams is equivalent to one drop of Cyanoacrylate.

Quality Control:
The Master Control is a sufficiently developed control using the recommended fume time for each chamber. The Master Control consists of an impression made with a fingerprint placed on a glass slide or a black lift card and fumed. This control represents the expected result for a properly functioning superglue chamber. The humidity, fuming time, date the control was created, and Analyst's initials will be recorded on the Master Control and kept on the front of the chamber for comparison to each control produced in the chamber during casework. A new Master Control is performed with every performance check. The Master control is not considered a reference standard.

Positive Control – Development/Enhancement of ridge detail, white film similar to the Master Control
Negative Control – No development, lack of white film

Controls for casework are made in the same manner as the Master Control. A control will be performed with each use, compared to the Master Control on the front of the chamber to ensure it is comparable in development, and the results will be recorded in the bench notes as a "positive control"

Reflected Ultraviolet Imaging System (RUVIS)

RUVIS utilizes reflected Ultraviolet (UV) light to visualize and photograph latent print ridge detail on non-porous and semi-porous items. By changing the angle of the light, the Analyst can change the contrast of the print and increase its visibility for subsequent photography.

RUVIS can be used prior to other processes, although it may provide better results after superglue fuming. RUVIS can degrade DNA evidence.

Safety Consideration:
UV light, even when reflected or diffuse, can result in serious, and sometimes irreversible, eye and skin injuries. Always wear suitable protective clothing, gloves, and UV safety goggles when using RUVIS.

Quality Control:
A control consists of a plain or superglued impression made with a fingerprint placed on a glass slide or a black lift card. A control will be performed with each use and the results will be recorded in the bench notes.

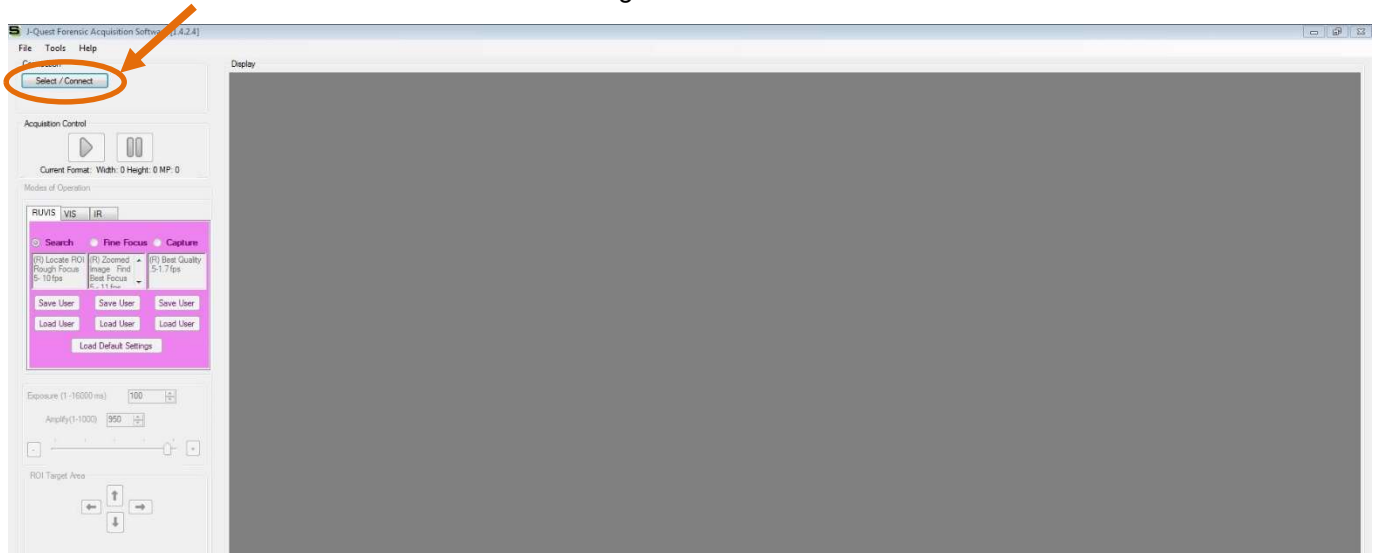
Positive Control – Ridge detail observed
Negative Control – No ridge detail observed

Procedure for lab RUVIS 1 and 2:
1. Connect the RUVIS imager to the camera mount and turn on the UV lamp.
2. Visualize and record the control results and any visible areas of ridge detail.
3. Label and digitally preserve ridge detail of potential value.

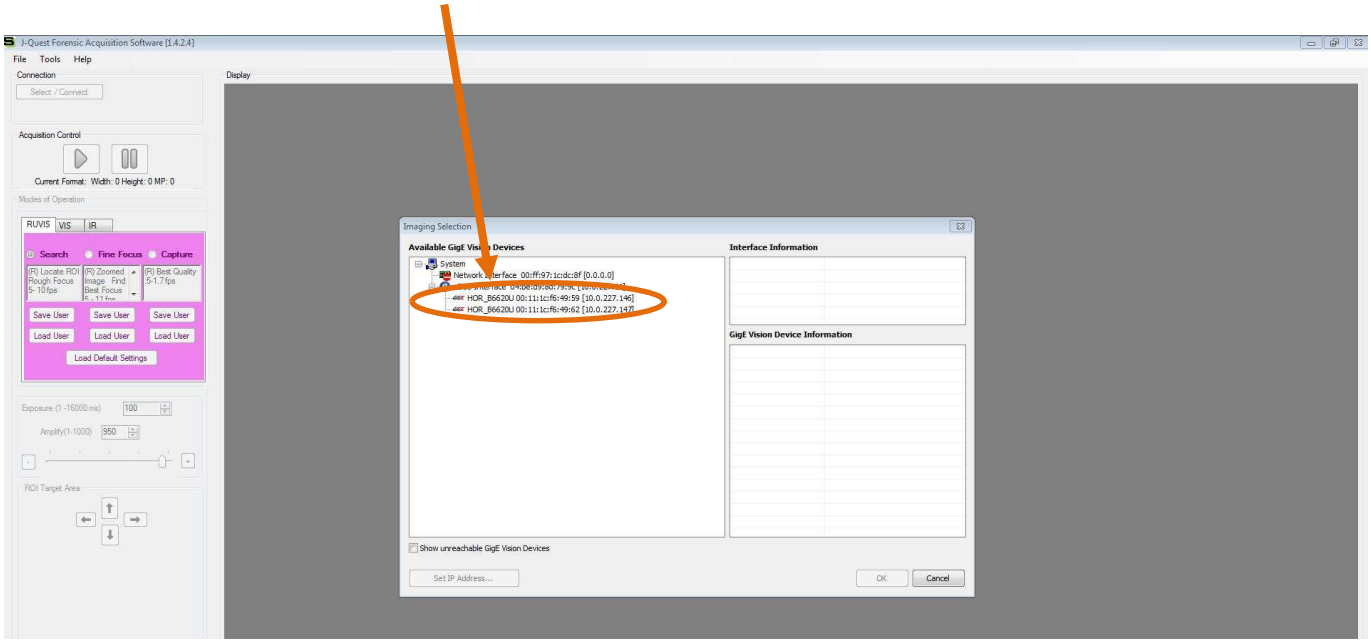
Procedure for lab RUVIS 3 and 4:
The following is a guide to operate the SceneScope SC-DIGITAL-29MP RUVIS with J-Quest software:

1. Open J-Quest 

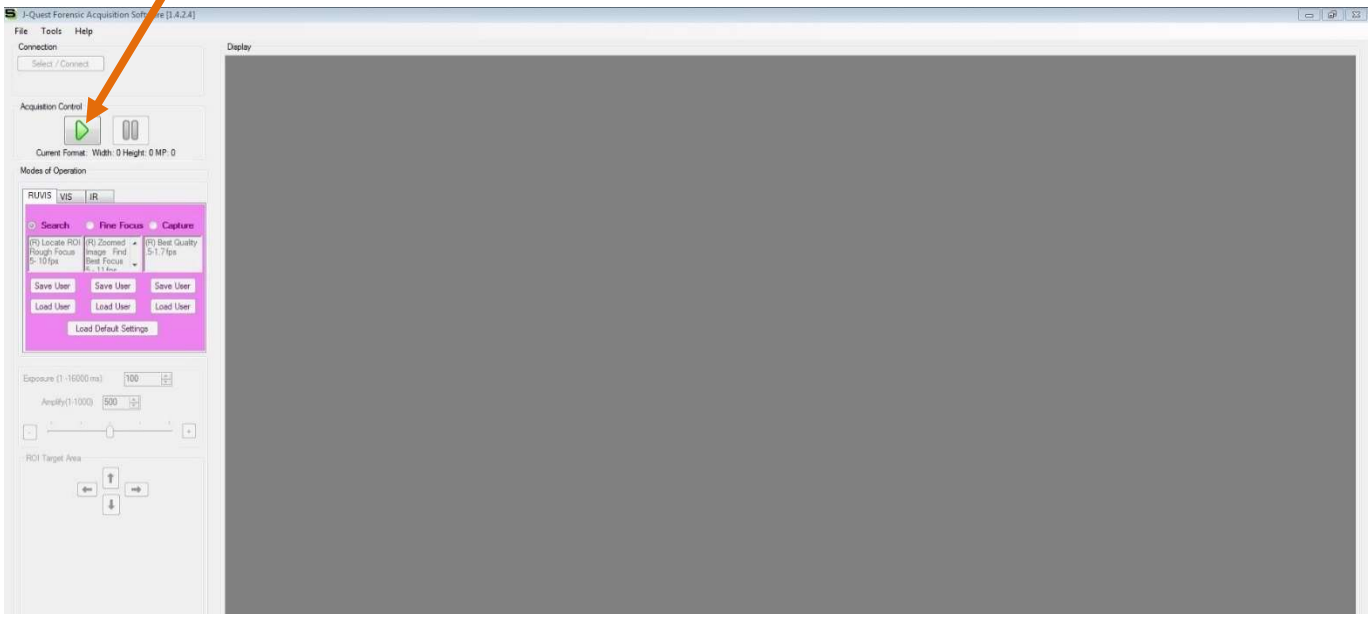
2. Press the “Select/Connect” button to begin



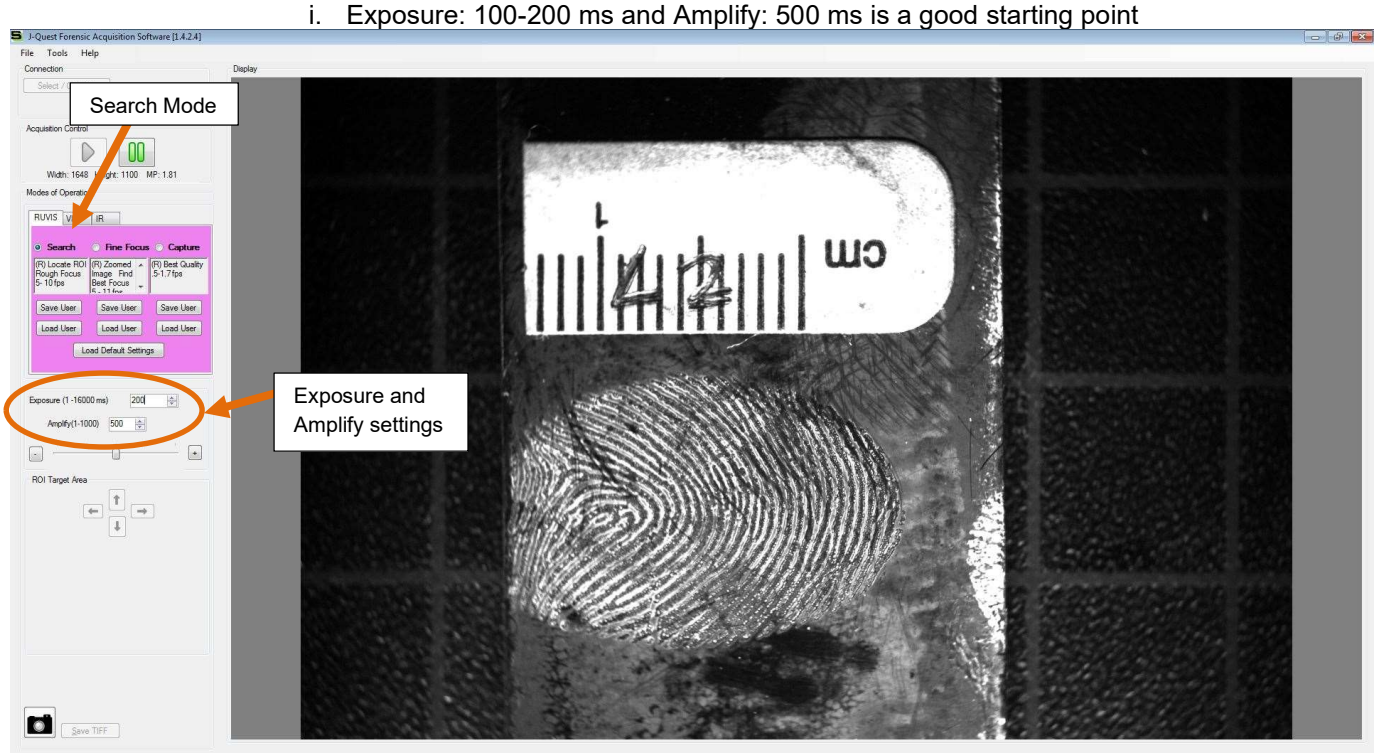
3. In the pop-up screen, select the appropriate GigE camera under the eBUS Interface then “OK”



4. Press Green arrow to activate camera
   a. Aperture on lens should be f/3.8 (largest opening)



5. Select “Search” under the RUVIS tab and adjust the focus:
    a. Adjust the exposure and amplify as needed
        i. Exposure: 100-200 ms and Amplify: 500 ms is a good starting point

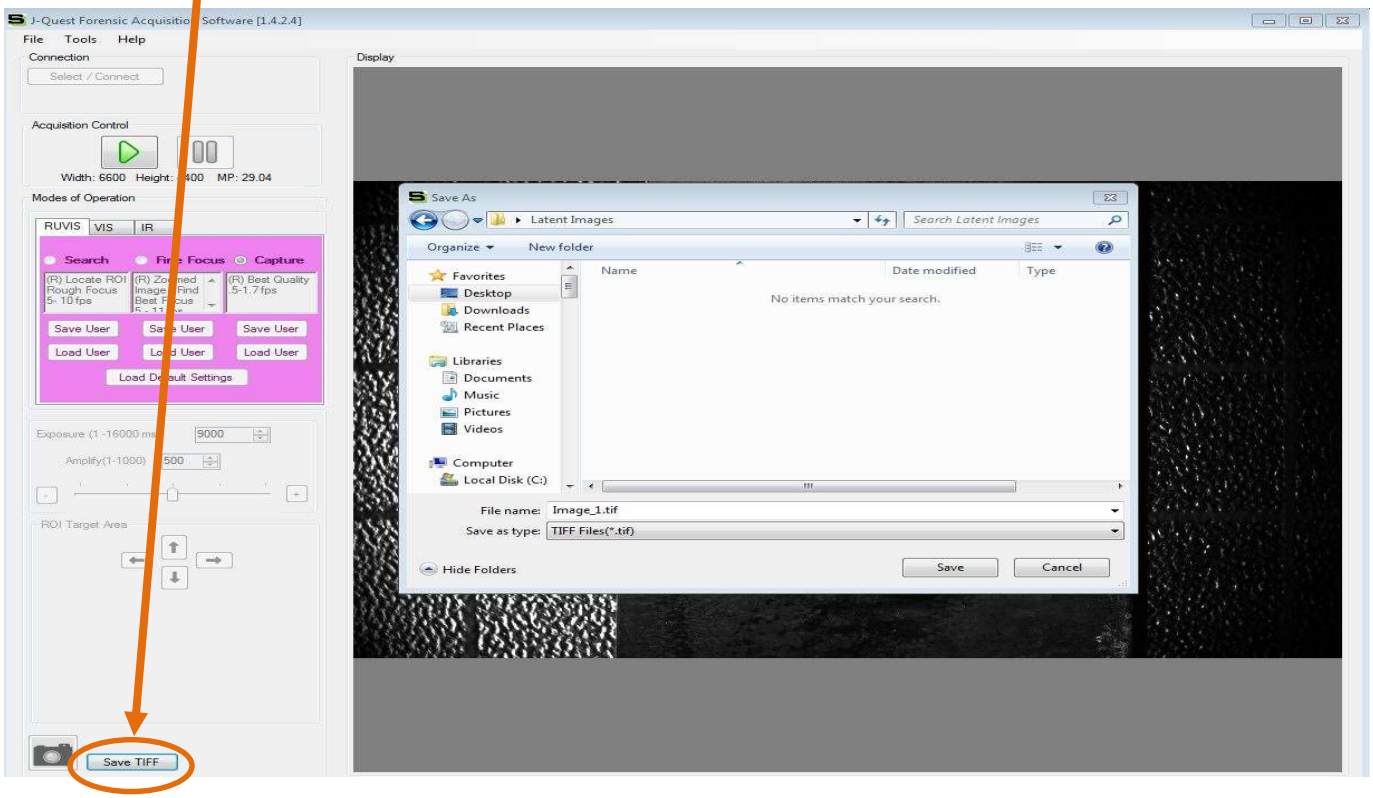


6. Select “Fine Focus” under the RUVIS tab
    a. Use the Region of Interest (ROI) target area arrows or image box to move the displayed image to a focus area.
    b. For best image quality adjust the lens aperture of f/5.6 to f/16, allowing for a greater depth of field. Exposure and Amplify will need to be adjusted accordingly.

7. Select “Capture” under the RUVIS tab
    a. Make any final exposure and amplification settings needed

8. Press the camera icon to capture the image

9. Select “Save Tiff” and choose a destination folder for the image



10. To capture a new area, select the green arrow and start from step 4 above.

Rhodamine (R6G)

Rhodamine 6G is a fluorescent dye stain used on non-porous and semi-porous items that enhances ridge detail previously developed with superglue. The prints are visualized using an alternate light source (a wavelength of 532 nm—TracER Laser) with an orange filter. If other processes are to be used on the same piece of evidence, R6G should be used last (with the exception of powder which is always last).

- Rhodamine is purchased. Stock and working solutions are prepared in the laboratory.

Safety Consideration:
Suitable protective clothing and gloves should always be worn. Avoid contact with skin and eyes. Utilize fume hood when handling chemicals. Wear orange goggles when using the TracER laser.

Procedure:

R6G Stock Solution – Makes 100 mL Batch
Rhodamine …….0.10 g
Methanol…..……....100 mL

Combine the ingredients in the order listed above and mix until Rhodamine is dissolved. The stock solution alone is not used during testing. Store in a dark container. Shelf life is approximately 1 year.

R6G Working Solution – Makes 4000 mL Batch
R6G Stock Solution…..12 mL
Acetone ……...60 mL
Acetonitrile…….....40 mL
Methanol…..…….…….....60 mL
Isopropyl Alcohol……128 mL
Petroleum Ether…..…….3700 mL

Combine the ingredients in the order listed above and mix. Store in a dark container. Shelf life is approximately 1 year. A positive control will be performed with each new lot before use in casework.

Application:

1. Apply the R6G working solution to the control and evidence by dipping, spraying, or using a squirt bottle.
2. Allow items to dry in a fume hood for approximately three minutes.
3. Use the TracER Laser with orange goggles to record the control results and visualize any developed areas of ridge detail.
4. Label and digitally preserve ridge detail of potential value using an orange filter on camera lens.

Quality Control:
The Master Control consists of a superglued impression on a glass slide or a black lift card that has had R6G working solution applied to it. This control represents the expected result for properly prepared R6G reagent. At a minimum, R6G lot number used and Analyst's initials will be recorded on the Master Control and kept in both camera rooms for comparison to each control produced during casework. A new Master Control will be performed with each prepared lot. The Master control is not considered a reference standard.

Controls for casework are made in the same manner as the Master Control. A control will be performed with each use, compared to the Master Control to ensure it is comparable in development, and the results will be recorded in the bench notes as a "positive control".

Positive Control–Development/Enhancement of ridge detail, fluorescence using TracER laser/orange filter
Negative Control–No development, No fluorescence using TracER laser/orange filter

1,2-Indanedione (IND)

1,2-Indanedione is a fluorescent amino acid reagent used for the development and enhancement of latent print evidence on porous items. The items are visualized using an alternate light source (a wavelength of 532 nm—TracER Laser) with an orange filter. If other processes are to be used on the same piece of evidence, IND should be used prior to Ninhydrin and R6G.

- IND is purchased. Stock and working solutions are prepared in the laboratory.

Safety Consideration:
Suitable protective clothing and gloves should always be worn. Avoid contact with skin and eyes. Utilize fume hood when handling chemicals. Wear orange goggles when using the TracER laser.

Procedure:

IND Stock Solution – Makes 520 mL Batch
1,2-Indanedione ……..2.4 g
Ethyl Acetate…..……..499 mL
Glacial Acetic Acid……...21 mL

Combine the ingredients in the order listed above and mix until IND is dissolved. The stock solution alone is not used during testing. Store in a dark container. Shelf life is approximately 3 months.

Zinc Chloride Stock Solution – Makes 100 mL Batch
Zinc Chloride...……...4 g
Ethyl Alcohol…..……100 mL

Combine the ingredients in the order listed above and mix until Zinc Chloride is dissolved. The stock solution alone is not used during testing. Store in a dark container. Shelf life is approximately 6 months.

IND Working Solution – Makes 4016 mL Batch
IND Stock Solution……...520 mL
Petroleum Ether……3480 mL
Zinc Chloride Stock……..16 mL

Combine the ingredients in the order listed and mix. Store in a dark container. Shelf life is approximately 6 months. A positive control check will be performed with each new lot number before use in casework.

Application:

1. Apply the working solution to the control and evidence by dipping, spraying, or using a squirt bottle and allow to dry in a fume hood for approximately three minutes.
2. Place the control and evidence items in the humidity chamber for 60-90 minutes at 50° C and 60% relative humidity.
3. Remove the control and evidence items from the chamber.
4. Use the TracER Laser with orange goggles to record the control results and visualize any developed areas of ridge detail.
5. Label and digitally preserve ridge detail of potential value using an orange filter on camera lens.

Some porous substrates may develop visual areas of ridge detail as a light pale pink color. It may be necessary to wait an additional 8-12 hours to re-examine the evidence for further development.

Quality Control:
The control will consist of an impression made on a piece of white paper that has had IND applied to it and has been placed in a humidity chamber using the appropriate settings. A control will be performed with each use and the results will be recorded in the bench notes.

Positive Control–Development/Enhancement of ridge detail, fluorescence using TracER laser/orange filter
Negative Control–No development, No fluorescence using TracER laser/orange filter

Ninhydrin

Ninhydrin reacts with the amino acids in latent print residue and is used for the development or enhancement of latent print evidence on porous and semi-porous items. IND should be used prior to Ninhydrin.

- Ninhydrin is purchased. A working solution is prepared in the laboratory.

Safety Consideration:
Suitable protective clothing and gloves should always be worn. Utilize fume hood when handling chemicals. Avoid contact with skin and eyes.

Procedure:

Ninhydrin Working Solution – Makes 4000 mL Batch
Ninhydrin……..…..20 g
Methanol…….…....120 mL
Isopropyl Alcohol…..….160 mL
Petroleum Ether…….….3720 mL

Combine the ingredients in the order listed above and mix until Ninhydrin is dissolved. Store in a dark container. Shelf life is approximately 1 year. A positive control check will be performed with each new lot number before use in casework.

Application:

1. Apply the working solution to the control and evidence by dipping, spraying, or using a squirt bottle.
2. Allow to dry in a fume hood for approximately three minutes.
3. Place the control and evidence items in the humidity chamber for 60-90 minutes at approximately 26.6° C with 60-80% relative humidity.
4. Remove the control and evidence items from the chamber.
5. Use intense light to visualize and record the control results and any developed areas of ridge detail.
6. Label and digitally preserve ridge detail of potential value.

It may be necessary to wait an additional 1-7 days to re-examine the evidence for further/additional developed areas of ridge detail.

Quality Control:
The control will consist of an impression made on a piece of white paper that has had Ninhydrin applied to it and has been placed in a humidity chamber using the appropriate settings. A control will be performed with each use and the results will be recorded in the bench notes.

Positive Control – Development/Enhancement of ridge detail, a purple color
Negative Control – No development

Amido Black

Amido Black, also known as napthol blue-black, is a protein stain used for the development or enhancement of latent print evidence in suspected blood. Amido Black stains the proteins in blood turning the print a dark blue or black color. The background of porous items may also stain.

Amido Black may degrade blood for DNA testing. It is recommended that evidentiary blood samples be preserved by appropriate personnel prior to processing with Amido Black. A light application of superglue fuming may be applied prior to Amido Black application to preserve latent prints not in apparent blood.

- Amido Black is purchased. Developer and Rinse solutions are prepared in the laboratory.

Safety Consideration:
When dealing with biological samples and chemical reagents suitable protective clothing and gloves should always be worn. Utilize fume hood when handling chemicals. Avoid contact with skin and eyes.

Procedure:
Amido Black methanol-based consists of two solutions, a developer and a rinse, with a final rinse using distilled water, as needed.

Developer Solution – Makes 500 mL Batch
Amido Black……....1 g
Glacial Acetic Acid…….…50 mL
Methanol…….…….450 mL

Combine the ingredients in the order listed above and mix until dissolved. Store in a dark container. Shelf life is approximately 1 year. A positive control will be performed with each new lot number before use in casework.

Rinse Solution – Makes 1000 mL Batch
Glacial Acetic Acid……100 mL
Methanol…….900 mL

Combine the ingredients in the order listed above and mix. Shelf life is approximately 1 year. Store in a dark container. A positive control check will be performed with each new lot number before use in casework.

Application:

1. Label and digitally preserve any ridge detail of potential value prior to processing.
2. Apply the Developer by dipping, spraying, or using a squirt bottle to the control and let sit for approximately 1 minute, rinse, and record the results.
3. Apply the Developer to the area containing potential ridge detail in possible blood and let sit for approximately 1 minute.
    - If necessary, the Developer can be re-applied before the final rinse to achieve sufficient clarity.
4. Apply the Rinse by dipping, spraying, or using a squirt bottle and let dry in fume hood. Use additional rinses if necessary.
5. Label and digitally preserve ridge detail of potential value.

Quality Control:
The control will consist of an impression made with synthetic blood on a non-porous surface such as a piece of tile. A control will be performed with each use and the results will be recorded in the bench notes.

Positive Control – Development/Enhancement of ridge detail, a blue-black color (within 60 seconds)
Negative Control – No Development

Hungarian Red

Hungarian Red is a water-based staining solution used for the development or enhancement of latent print evidence in suspected blood. An advantage compared to other staining solutions is that the stained impression can be lifted using a white gelatin lifter. The lifted impression will fluoresce using an alternate light source under green light (TracER Laser at 532 nm with an orange filter), making it easier to visualize faint impressions and impressions present on dark surfaces.

It is recommended that evidentiary blood samples be preserved by appropriate personnel prior to processing with Hungarian Red.

- Hungarian Red working solution is prepared in the laboratory.

Safety Considerations:
Suitable protective clothing and gloves should always be worn. Avoid contact with skin and eyes. Utilize fume hood when handling chemicals. Wear orange goggles when using the TracER Laser.

Procedure:

Hungarian Red Working Solution – Makes 1000 mL Batch
5-Sulfosalicylic acid……..20 g
Acid Fuchsin……...2 g
Distilled water ……..……1000 mL

Combine the ingredients in the order listed above and mix until completely dissolved. Shelf life for the working solution is approximately 30 days; 3 months when refrigerated. A positive control check will be performed with each new lot number before use in casework.

Application:

1. Label and photograph any visible ridge detail prior to processing.
2. Apply Hungarian Red working solution by lightly spraying/misting dried impressions in apparent blood, leave for approximately 1-3 minutes.
3. Rinse the excess dye away using distilled water.
4. Label and digitally preserve ridge detail of potential value with white light and/or using the TracER Laser (532nm, with an orange filter) for darker colored surfaces.
    i. If there is background color/contrast interference, then lift the developed fingerprints using a white gel lifter (allow the lifter to sit on the impression for at least 15 minutes). The lifted impression will fluoresce under green light (TracER Laser at 532 nm with an orange filter) and can be photographed with the appropriate filter.

Quality Control:
The control will consist of an impression made with synthetic blood on a non-porous surface such as a piece of tile. A control will be performed with each use and the results will be recorded in the bench notes.

Positive Control – Development/Enhancement of ridge detail, a red color
Negative Control – No Development

Powders

Powder is used for developing ridge detail on various surfaces. There are multiple types of powders in a variety of colors, magnetic powders, as well as fluorescent powders that may require the use of an alternate light source (ALS) with appropriate filters for visualization. Powder processing can be used at the Forensic Scientists' discretion. If other processes are to be used on the same piece of evidence, powder should be applied last.

- Powders are purchased and not prepared in the laboratory.
- No control is required for powder application.

Safety Consideration:
Suitable protective clothing, mask, and gloves should always be worn. Apply powder in a fume hood when possible. Avoid contact with skin and eyes.

Application:

1. Label and digitally preserve any ridge detail of potential value prior to processing.
2. Choose a type of powder and appropriate brush
    a. Plain/Fluorescent powder – Fiberglass or Nylon, Feather Duster, Short Bristle Brush
    b. Magnetic Powder – Magnetic Wand
3. Apply the powder by lightly dusting over the surface. Only the tips of the brush (or metal shavings for magnetic powder) should come in contact with the surface.
4. Use oblique light or intense light to better visualize developed ridge detail.
5. Label and digitally preserve any ridge detail of potential value. There are circumstances where lifting the ridge detail of potential value would be beneficial, however, it is not routinely performed.

Latent prints lifted using fluorescent powders can be very faint and easily overlooked. It is recommended that the lift card/gel lift be examined utilizing the ALS (TracER Laser) with the appropriate filter. In the event that fluorescent powder may be present on an item and the latent print processing Analyst is not currently a crime scene Analyst, consult with a trained crime scene Analyst for use of the ALS in order to visualize the evidence item. This consult will be documented in the bench notes.

Liquid Powder Suspension (WetWop)

WetWop and other sticky side powder suspensions are used to develop latent prints on adhesive substrates and latex/nitrile gloves. There are two basic colors: black and white. The adhesive should be protected from other processes by placing on clean acetate or plastic. Other processes should be used on the evidence items prior to applying WetWop (with the exception of R6G which should be used after WetWop). Protect the adhesive side from additional processes when possible. Processing with WetWop may interfere with DNA analysis.

- Liquid Powder Suspension (WetWop) is purchased and not prepared in the laboratory.
- No control is required for Liquid Powder Suspension (WetWop) application.

Safety Consideration:
Suitable protective clothing and gloves should always be worn. Avoid contact with skin and eyes.

Recommended sequential processing:

1. Label and photograph any visible ridge detail using light and RUVIS prior to processing.
2. Process the item as received using Cyanoacrylate Fuming (CA, exposed non-adhesive side).
3. Label and photograph any visible ridge detail using light and RUVIS.
4. Remove tape from the item.
    a. If areas of non-adhesive side were not exposed to CA fuming. Repeat CA fuming. Place the tape on clear acetate to protect the adhesive side and repeat CA fuming.
5. Follow the application for liquid powder suspension below.
6. Label and photograph any visible ridge detail, then place on clear acetate for further processing.
7. Apply R6G to the non-adhesive side.
8. Label and photograph any visible ridge detail

Application:

1. Shake container before use.
2. Choose a contrasting color based on the adhesive surface to be processed.
3. Using a brush apply the Liquid Powder Suspension (WetWop) onto the adhesive surface and let sit for approximately 10-15 seconds.
4. Rinse off under slow running water.
5. Let dry.
6. Label and digitally preserve ridge detail of potential value.

Small Particle Reagent (SPR)

Small Particle Reagent is a liquid suspension powder in water with detergent used for the development and enhancement of latent print evidence on non-porous and semi-porous surfaces that have previously been wet. The powder particles adhere to the oily or fatty components of fingerprint residues. There are two basic colors: black and white.

- Small Particle Reagent is purchased and not prepared in the laboratory.
- No control is required for SPR application.

Safety Consideration:
Suitable protective clothing, mask, and gloves should always be worn. Avoid contact with skin and eyes.

Procedure:

1. Label and photograph any visible ridge detail prior to application.
2. Choose a contrasting color depending on the surface of the item or area to be processed.
3. Shake vigorously before each use.

4. DIP (Preferred Method):
    a. Submerge the item in SPR for a minimum of 2 minutes. A longer processing time may be necessary. Continuously agitate the liquid.
    b. Dip the item of evidence in clear tap water. Repeat if necessary.
    c. Allow to dry at room temperature.
    d. Label and photograph any ridge detail of potential value.

OR

SPRAY:

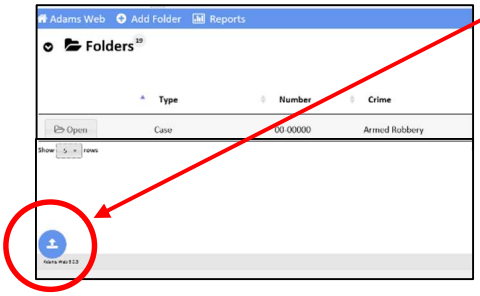
a. Spray the SPR solution on the item from the top and work towards the bottom.
b. If development occurs, continue spraying the area until maximum contrast is achieved.
c. Spray the item with tap water.
d. Allow to dry at room temperature
e. Label and photograph any ridge detail of potential value.

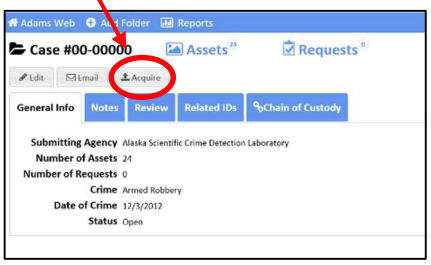
It may be necessary to repeat treatment if the development of ridge detail is faint. There are circumstances where lifting the ridge detail of potential value would be beneficial using a gel lift of contrasting background but is not routinely performed.

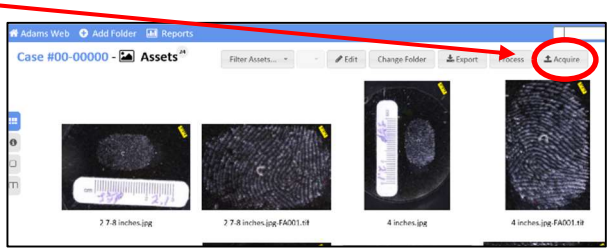
Authenticated Digital Asset Management System (ADAMS)

DIGITAL ASSET ACQUISITION:

1. Open Adams Web
2. Acquisition can occur from one of three places. The main home page, inside the case page, or from the Asset tab inside a case.

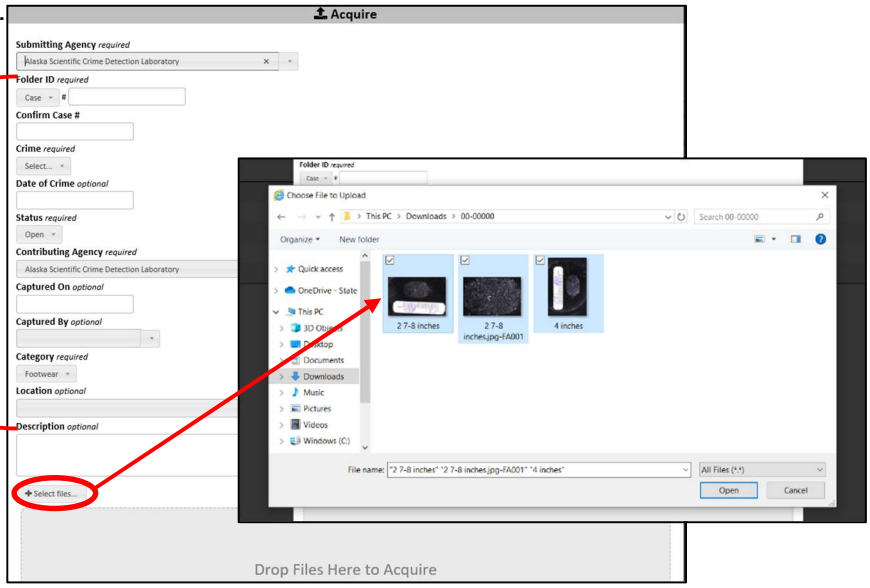




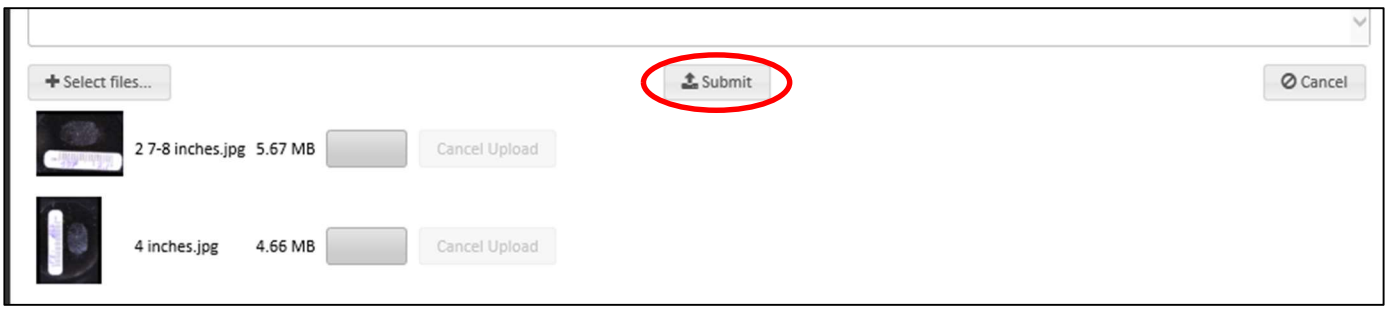


3. Fill out the Asset case information and click “Select files”. Choose the images to be acquired in this case and select “Open”. Multiple images from the same case can be selected at once.
   a. Note: Prior to acquisition, insert the designated latent number in front of the File Name to display as: 90A.1 IMG_1547.

- Lab Case Number
- Crime Type
- Date of Crime (optional)
- Captured on (optional)
- Captured by (optional)
- Category of Image
- Location (optional)- Item number/location



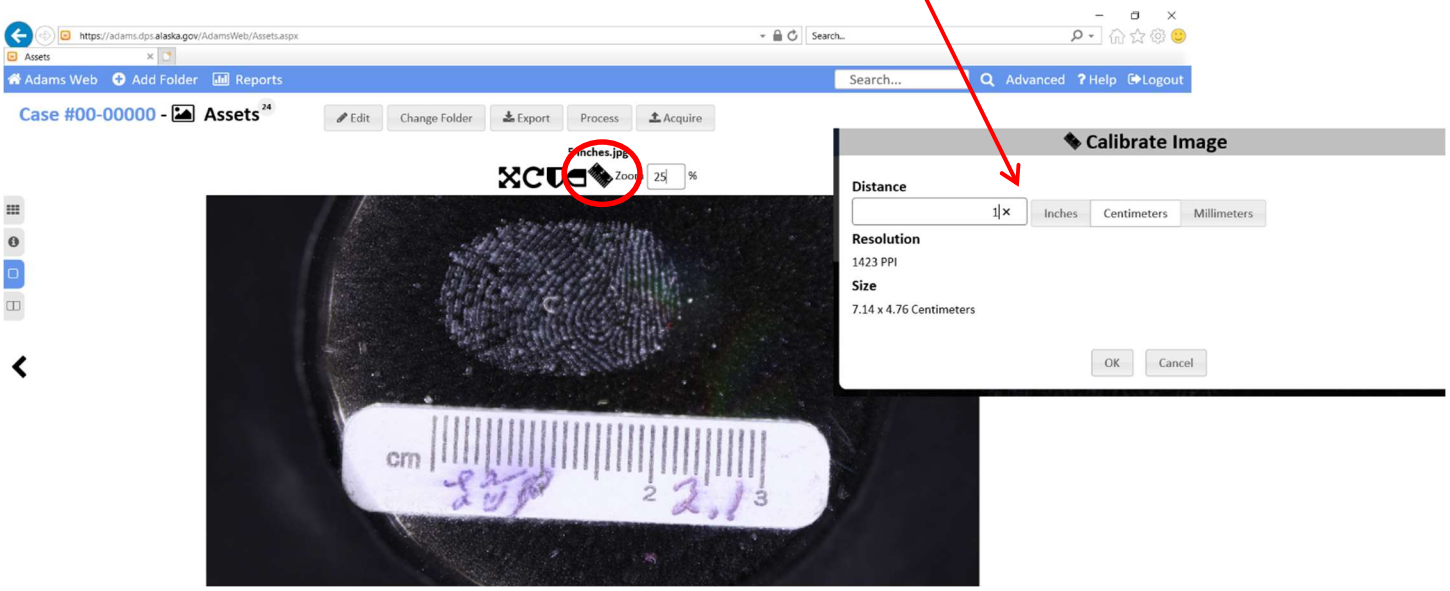
4. Wait for the images to finish uploading. Then select “Submit”



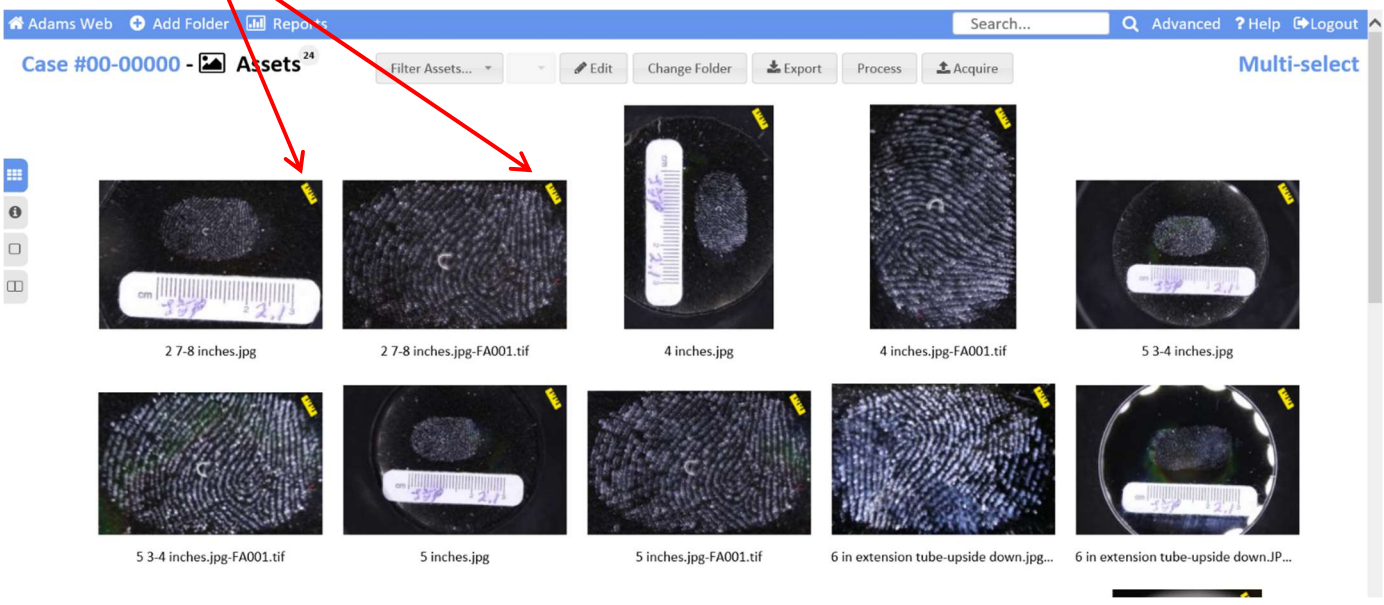
ASSET CALIBRATION:

Scales are necessary for accurate calibration and 1:1 printing.

1. Double click on the Asset you wish to calibrate which will switch the image to full view.
2. Select the ruler icon and using the cursor, draw a line measuring one unit of measurement on the scale in the image. Enter the value and unit of measurement.

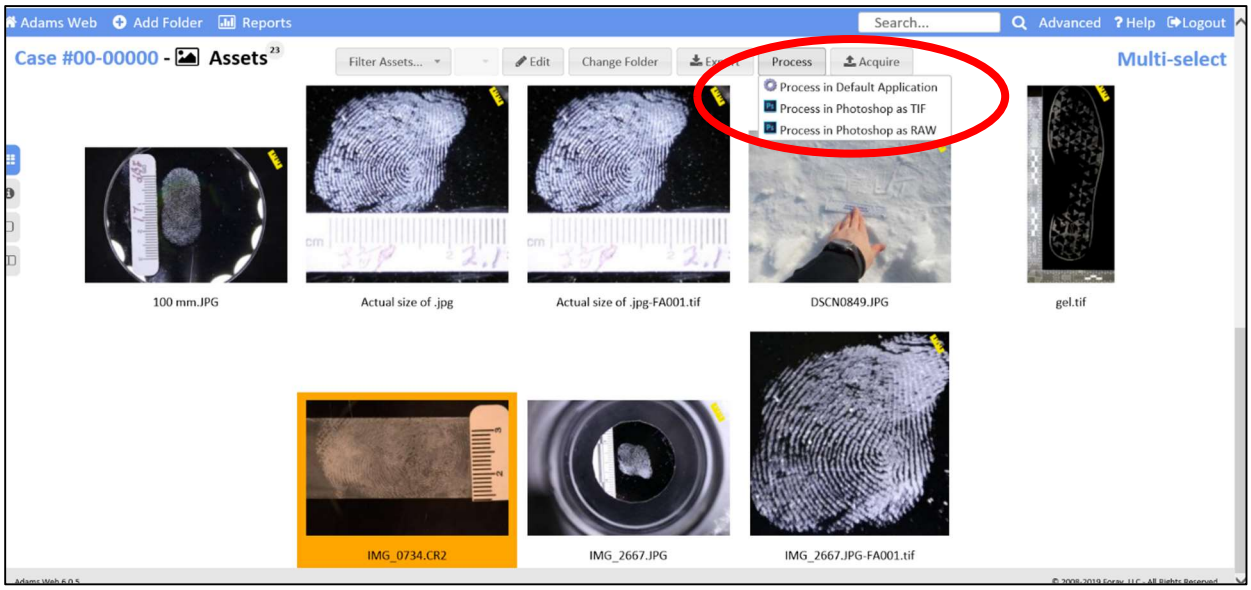


3. "F5" will refresh the page and all calibrated Assets will show a ruler icon in the upper corner of the image.

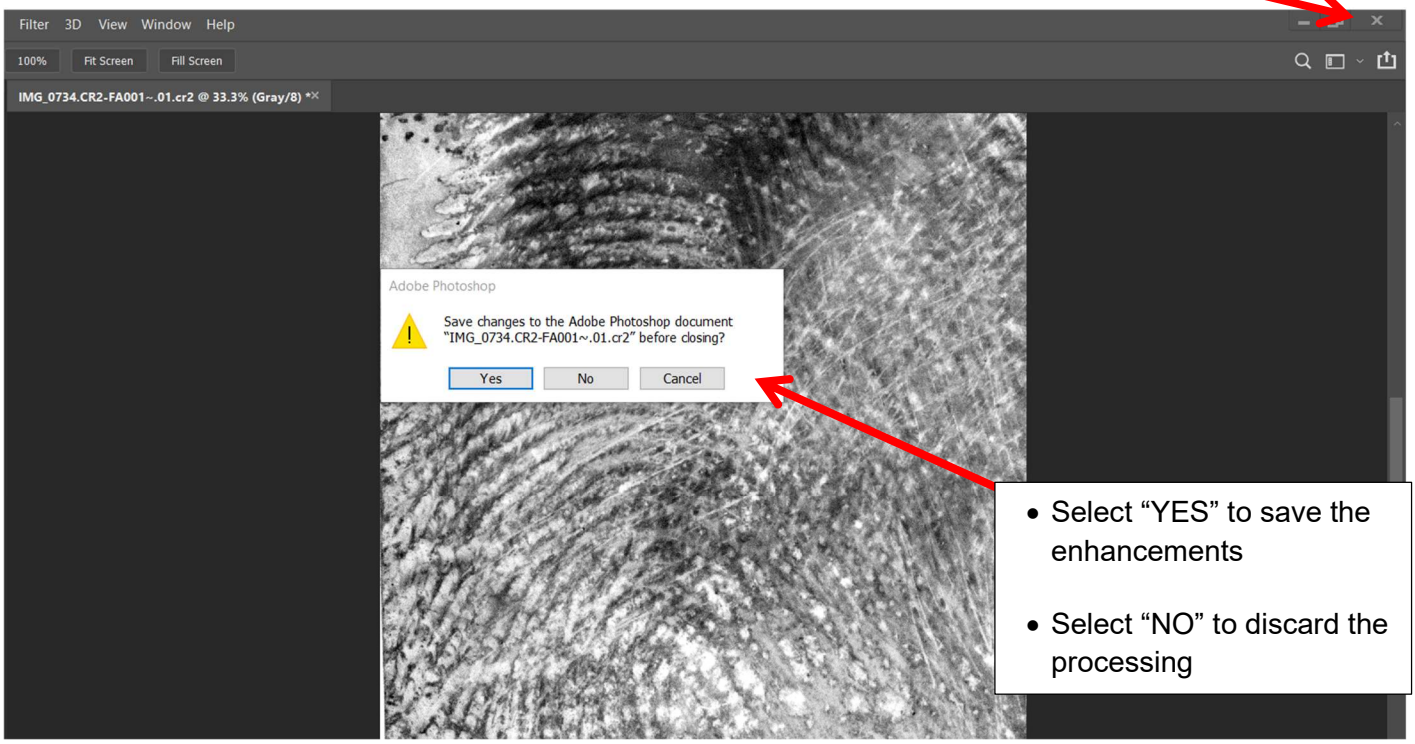


PROCESSING THE IMAGE WITH PHOTOSHOP:

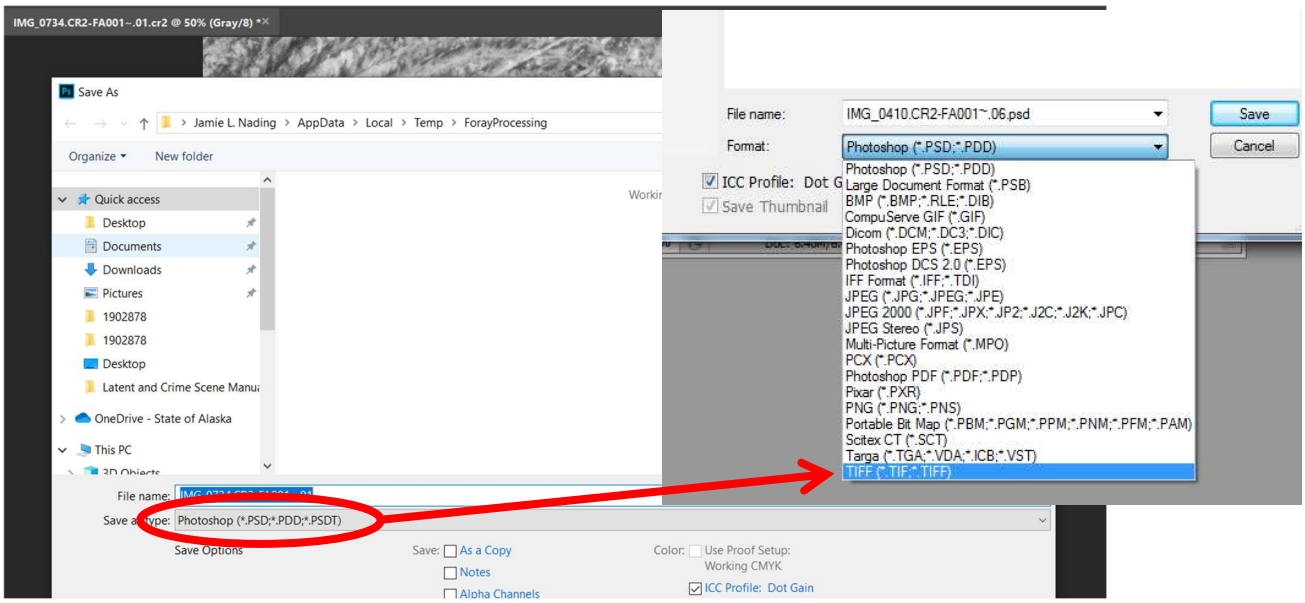
1. Once calibrated, an Asset may be processed. Select the Asset to be processed so it is highlighted orange. Select “Process” and choose “Process in Photoshop as TIFF/RAW” depending on the image file format. This will launch the Photoshop application.



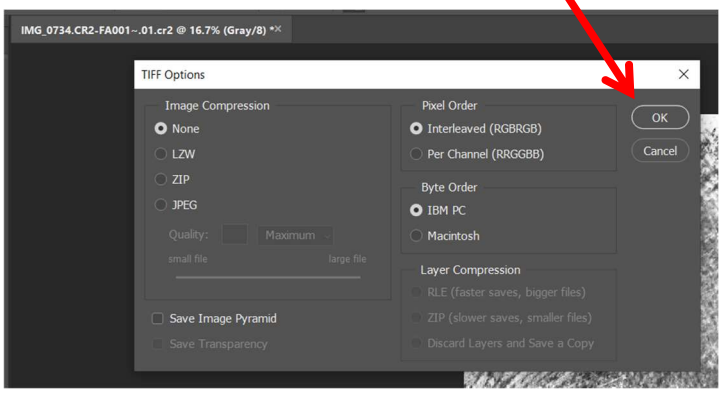
2. When image processing is complete in Photoshop, close the image and choose whether to save/discard processing enhancements.



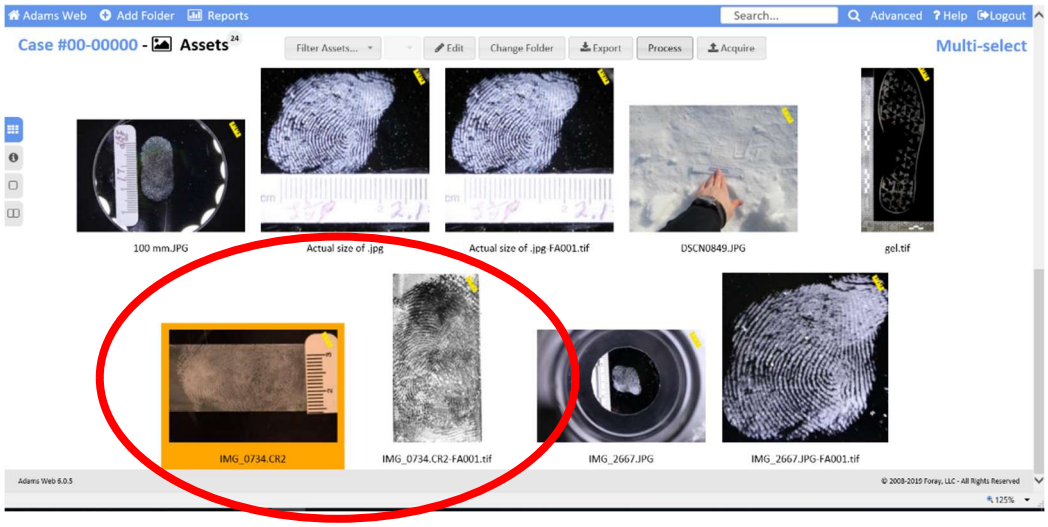
3. If working with TIFF images, the image Asset will close. If working with RAW images, Photoshop will prompt you to save the Asset. Change the file format from PSD (default) to TIFF file format.



4. Select SAVE and the TIFF Options box will open, Select OK.



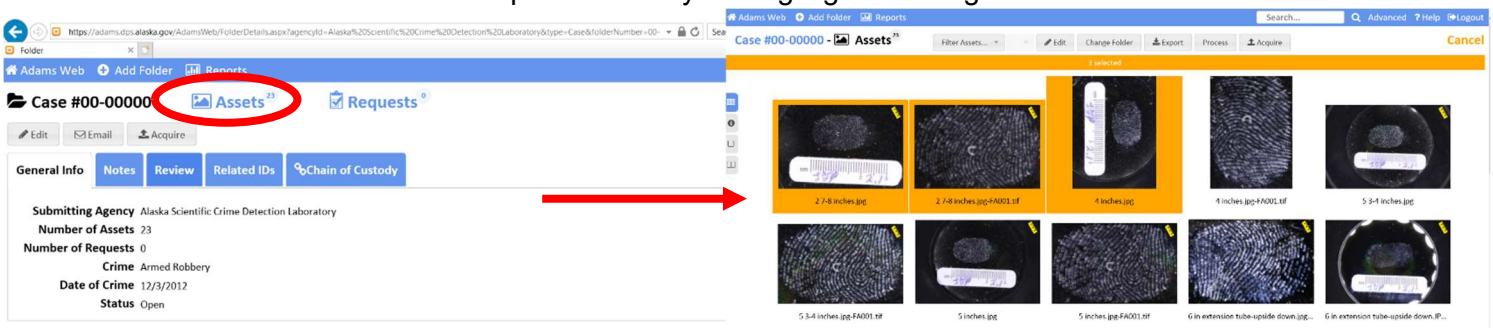
5. Return to Adams Web and the processed Asset will appear next to the original Asset once accepted.



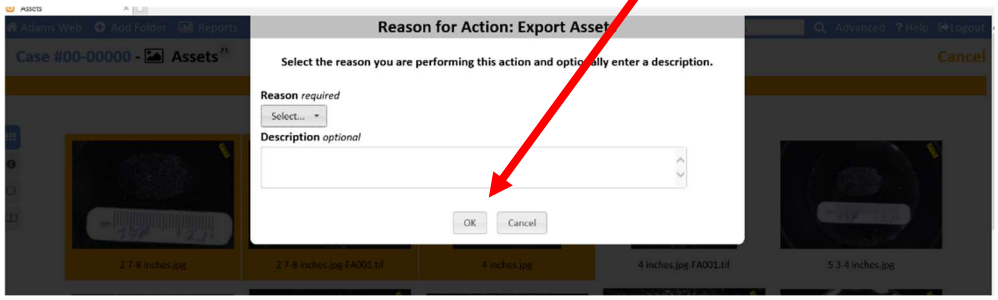
EXPORTING DIGITAL ASSETS:

Single or Multiple Assets:

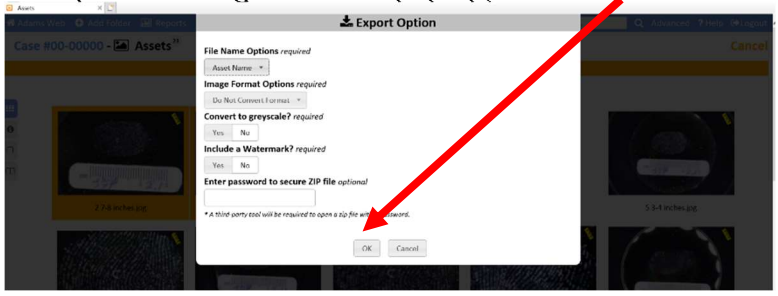
1. Open the Case Number and click Assets.
2. Select the assets to be exported so they are highlighted orange.



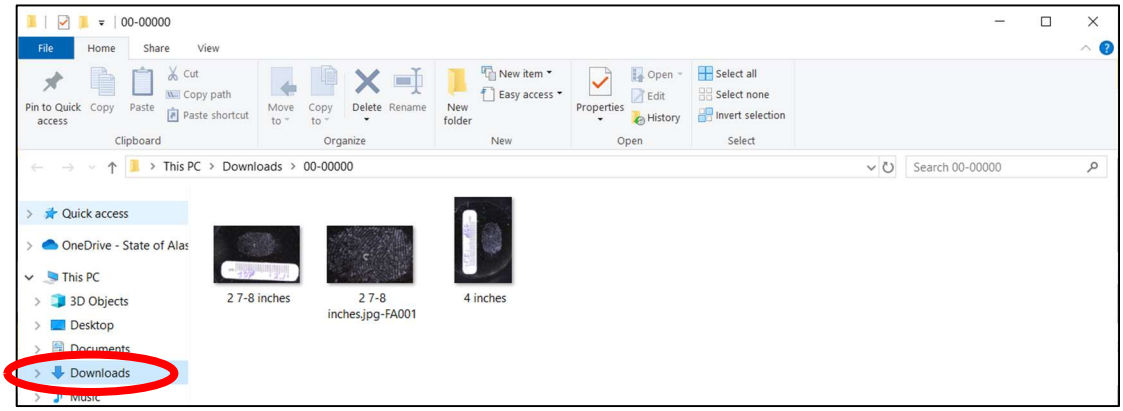
3. Click “Export” at the top of the page and fill out the dialogue box with the reason for exporting. (Example: Notes, Discovery request, etc.) Select “OK”



4. A second “Export Options” dialogue box will pop up, Select OK



5. The exported images can be located inside the PC “Downloads” folder.

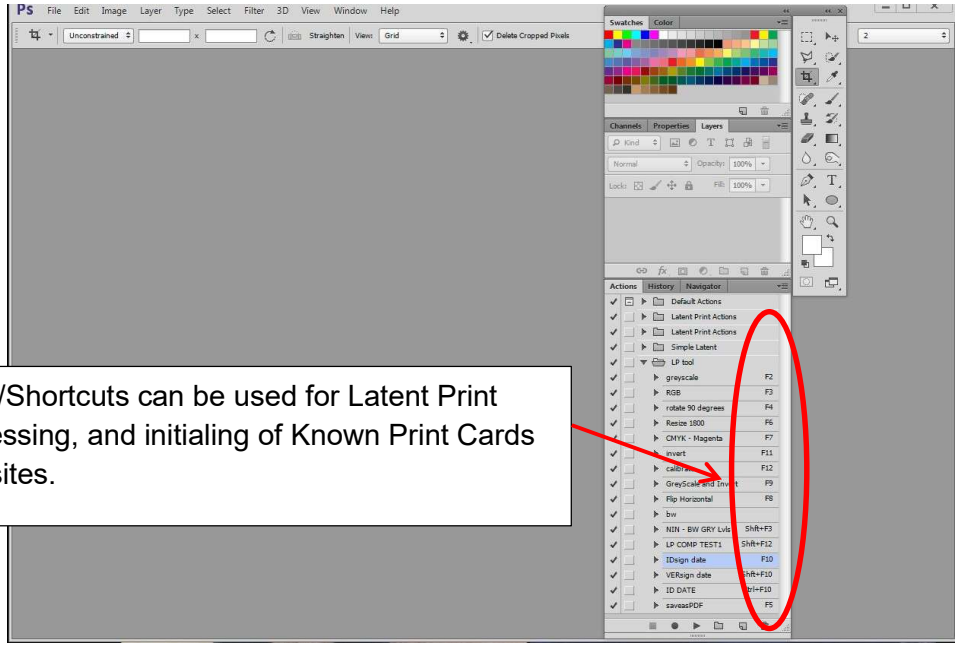


Adobe Photoshop

ACTIONS: Latent Print Tools and Shortcuts

The current list of tools are located on the internal network drive:

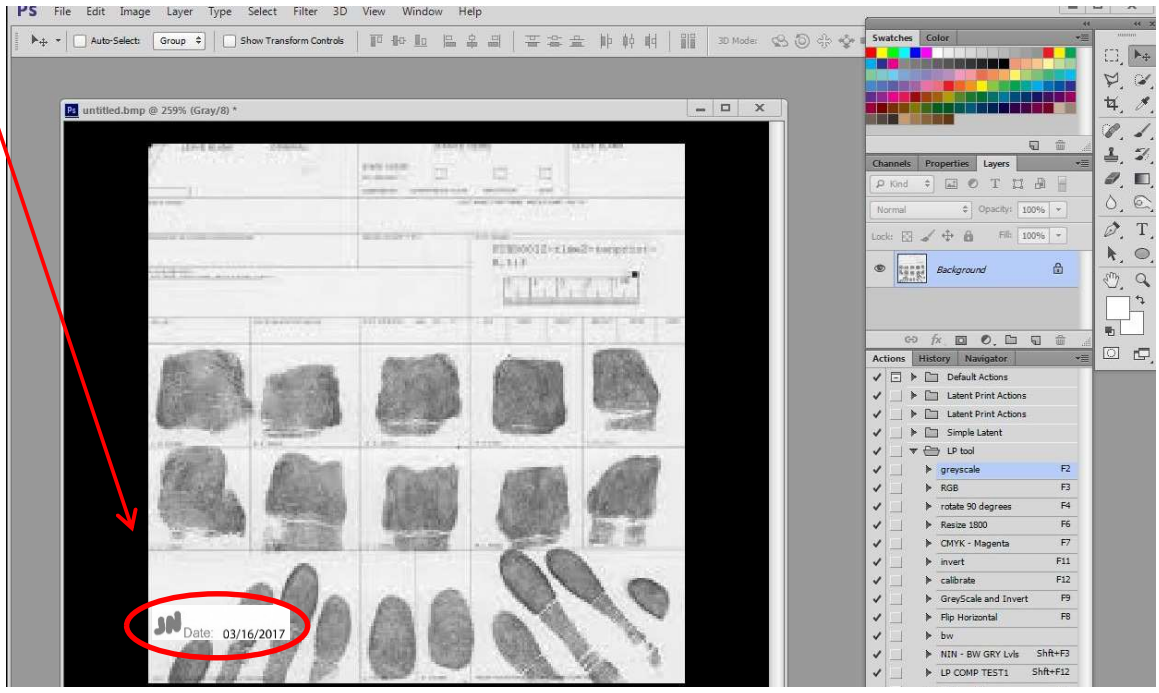
I:\Discipline Shares→Latent_Share→- WORK PRODUCT -→Tools



- These Tools/Shortcuts can be used for Latent Print Image Processing, and initialing of Known Print Cards and Composites.

KNOWN FINGERPRINT CARDS:

The cards will contain the date and examiner initials, and be saved in a TIFF file format.
All images of known prints used will contain the information listed above and be acquired to ADAMS Web.



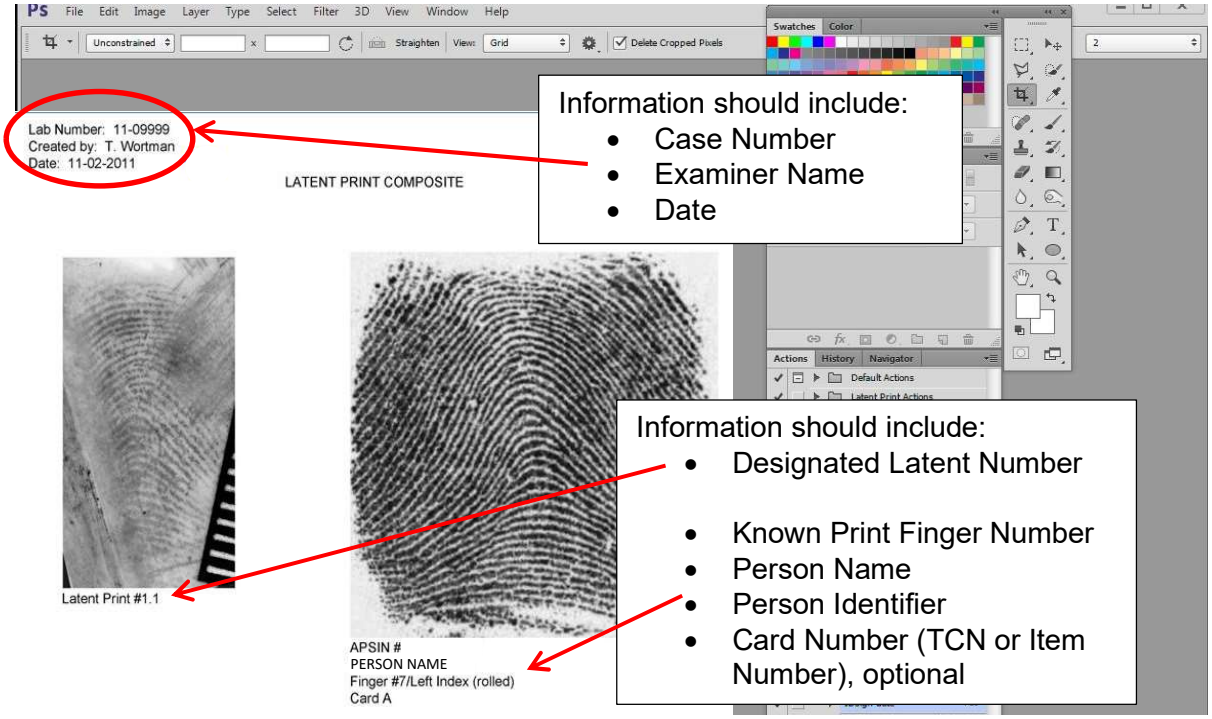
DIGITAL COMPOSITE IMAGES:

Contain a side-by-side latent print and known print and are created by the original case Analyst for purposes of Comparison, Identification and Verification mark-up.

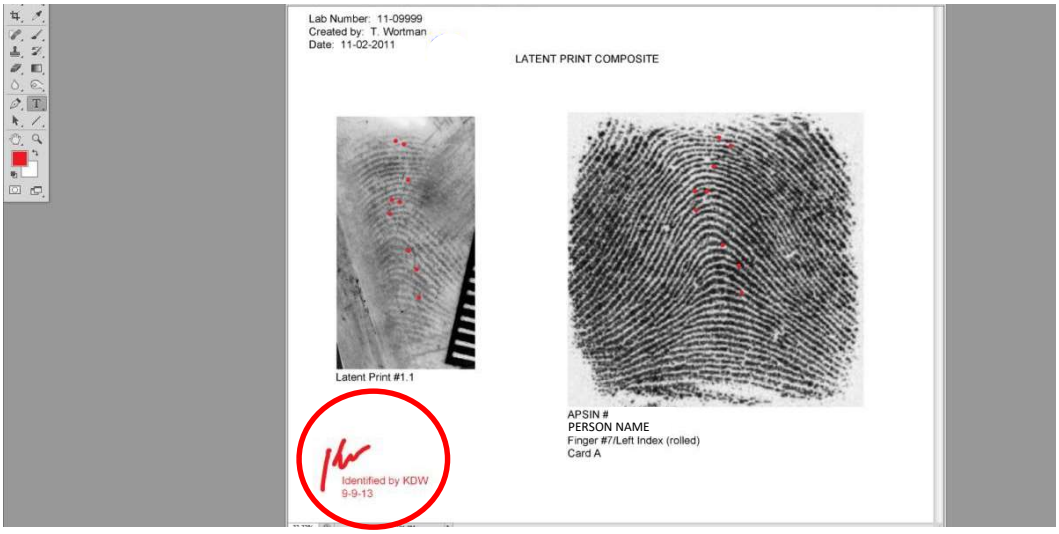
The latent print composites will be named in the following manner:

Comparison Composite: "Latent Print Designation Number" LP COMP.tif
Identification Composite: "Latent Print Designation Number" LP ID "Examiners Initials".tif
Verification Composite: "Latent Print Designation Number" LP VER "Verifier's Initials".tif

- Examples: 9.1 LP COMP, 9.1 LP ID JLN, 9.1 LP VER KDW



The Comparison Composite will be marked-up by the original case Analyst and dated/initialed.
(Note: The verifier will repeat the same process using the Comparison Composite)



Appendix B - Abbreviations

Abbreviation	Description
#	Number
AK	Alaska
ADAMS	Authenticated Digital Asset Management System
ACE-V	Analysis, Comparison, Evaluation, Verification
ABIS	Automated Biometric Identification System
ALS	Alternate Light Source
APSIN	Alaska Public Safety Information Network
ASCDL	Alaska Scientific Crime Detection Laboratory
CA	Cyanoacrylate (Superglue)
COMP	Composite
DOB	Date of Birth
DL	Driver's License
DSLR	Digital Single Lens Reflex Camera
FBI	Federal Bureau of Investigation
ID	Identification
JFI	Journal of Forensic Identification
LIMS	Laboratory Information Management System
LP	Latent Print
N/A	Not Applicable
NGI	Next Generation Identification
R6G	Rhodamine 6G
RLS	Request for Laboratory Services
RUVIS	Reflected Ultraviolet Imaging System
S/N, SN	Serial Number
SID	State Identification Number
SSN	Social Security Number
TCN	Transaction Control Number
UCN	Universal Control Number
ULW	Universal Latent Workstation
UV	Ultraviolet Light
VER	Verified/Verification
WIN	Western Identification Network

FINGER ABBREVIATION CHART

Finger #	Abbreviation	Description of Finger
1	RT	Right Thumb
2	RI	Right Index
3	RM	Right Middle
4	RR	Right Ring
5	RL	Right Little
6	LT	Left Thumb
7	LI	Left Index
8	LM	Left Middle
9	LR	Left Ring
10	LL	Left Little

Appendix C – Revision History

Changes from LPPM 2020 R1 to LPPM 2021 R0			
LPPM 2020 R1 Page	**LPPM 2021 R0 Page**	**Location**	**Revision Made**
Page 2	Page 2	Section 1	**Added "<u>Monitoring Performance</u>:** In addition to yearly external proficiency testing in latent print processing and latent print examination, once per accreditation cycle each competent forensic scientist in the discipline will undergo additional performance monitoring activities from the following: • Direct observation or Internal latent print processing proficiency test (Enhancement) • Internal latent print examination proficiency test (Individual Characteristic Database) Direct observations will be documented as a case activity in LIMS. If a forensic scientist successfully completes the Latent Print Examination IAI Certification test in an accreditation cycle, this will be taken in lieu of an additional internal latent print processing and examination proficiency tests."
Page 2	Page 2	Section 1	**Changed "Old Case Records:** Stored in the latent case file archive room within the Latent Print Laboratory. Access to this room is limited to Discipline Analysts and the Physical Discipline Supervisor. These case records are uniquely identified by a laboratory number. The following procedure is for cold case retrieval and digitization once the case is retrieved: • Check LIMS for any existing barcodes, if no entry found, create a new barcode. • Scan all paper documents and upload them into the case file in LIMS. All physical evidence will be digitized/scanned and uploaded into ADAMS. • Return all evidence to originating agency." **To** "<u>**Old Case Records:**</u> Stored in laboratory room 2225. Access to this room is limited to laboratory personnel. These case records are uniquely identified by a laboratory number. The following procedure is for cold case retrieval and digitization once the case is retrieved: • Check LIMS for any existing barcodes, if no entry found, create a new barcode. • Scan all paper documents and upload them into the case file in LIMS. All physical evidence will be digitized/scanned and uploaded into ADAMS. • Return all evidence to originating agency."

Page 4	Page 4	Section 3	**Removed** **"**Digital cameras, Coaxial Light Guide, and flashlights in the Latent Print Laboratory are not treated as resources in LIMS."
Page 4	Page 4	Section 3	**Changed "**Equipment records and manuals are stored on the internal network drive located: I:\Discipline Shares→ Latent Share→QUALITY ASSURANCE→EQUIPMENT." **To** **"**Equipment records and manuals are stored on the internal network drive located on the laboratory SharePoint."
Page 4	Page 4	Section 3	**Changed "**Digital Cameras Cannon EOS-5D Mark II/III, Canon PowerShot EOS-5D" **To** "Digital Cameras Canon EOS-5D Mark II/III/IV, Canon PowerShot"
Page 4	Page 4	Section 3	**Changed "**Cyanoacrylate Fuming Chambers • Misonix CA-3000, Misonix CA-9000 • Ultrasonic Humidifier " **To** "Cyanoacrylate Fuming Chambers • Misonix CA-3000, Misonix CA-6000, Misonix CA-9000 • Foster & Freeman MVC/5000 • Ultrasonic Humidifier "
Page 5	Page 5	Section 4	**Changed "**All prepared chemicals are documented using the Chemical Inventory Excel Spreadsheet located on the internal network drive: I:\Discipline Shares→Latent Share→QUALITY ASSURANCE\CHEMICAL INVENTORY" **To** **"**All prepared chemicals are documented using the Chemical Inventory Excel Spreadsheet located on the laboratory SharePoint."
Page 5	Page 5	Section 4	**Changed "**Performance Check and Validation records are located on the internal network drive: I:\Discipline Shares\ Latent_Share\QUALITYASSURANCE\ PERFORMANCE CHECK & VALIDATIONS" **To** **"**Performance Check and Validation records are located on the laboratory SharePoint"

Page 5	Page 5	Section 4	**Changed "**The general laboratory cleaning areas can be found on the internal network drive. I:\Discipline Shares\Latent_Share\QUALITY ASSURANCE" **To** "The general laboratory cleaning areas can be found on the laboratory SharePoint"
Page 9	Page 9	Section 5	**Added "**Anchorage Police Department cases that only contain digital images of impression evidence and that do not already have a laboratory case number will require a new Request for Lab Service (RLS) be submitted to the laboratory. The digital images evidence 'Item number' should be unique to the case and the description should state "Digital Images of fingerprints recovered from XX". The analyst will enter the case information, the digital evidence item with a proper chain of custody, and latent print request in LIMS. The chain of custody should reflect the images originating from the Digital Imaging Server - APD, via the analyst's name, with Digital Imaging Server as the final location."
Page 10	Page 10	Section 6	**Added "**At the discretion of the Physical Section Supervisor or APD Forensic Supervisor, an approved deviation for 'ABIS Triage' may be issued depending on the circumstances of a case. A case activity will be added for these instances documenting the approval and reason."
Page 10	Page 10	Section 6	**Added "**Database performance monitoring will include a ground truth sample to be entered and searched in the database with the expected result obtained by the analyst. "